

IN THE SPECIFICATION

Please add the following new paragraphs beginning after paragraph 33 in the specification:

[0033A] It has been found that continuous take off of product slurry in an olefin polymerization reaction carried out in a loop reactor in the presence of an inert diluent allows operation of the reactor at a much higher solids concentration. Commercial production of predominantly ethylene polymers in isobutane diluent has generally been limited to a maximum solids concentration in the reactor of 37-40 weight percent. However, the continuous take off has been found to allow significant increases in solids concentration. Furthermore, the continuous take off itself brings about some additional increase in solids content as compared with the content in the reactor from which it takes off product because of the placement of the continuous take off appendage which selectively removes a slurry from a stratum where the solids are more concentrated. Hence solids concentrations of greater than 40 weight percent of the slurry discharging from the reactor are possible. It should be noted that the weight of catalyst is typically disregarded since the productivity of common catalysts are generally extremely high.

[0033B] The continuous take off appendage may be at the downstream end of a lower horizontal segment of the loop reactor. The location can be in an area near the last point in the loop where flow turns upward before the catalyst introduction point so as to allow fresh catalyst the maximum possible time in the reactor before it first passes a take off point. However, the continuous take off appendage can be located on any segment or any elbow. Moreover, the segment of the reactor to which the continuous take off appendage is attached can be of larger diameter to slow down the flow and hence further allow stratification of the flow so that the product coming off can have an even greater concentration of solids.

[0033C] Also, it has been found that more aggressive circulation (with its attendant higher solids concentration) can be employed. Indeed more aggressive circulation in

combination with the continuous take off, solids concentrations of greater than 50 weight percent can be removed from the reactor by the continuous take off. For instance, the continuous take off can easily allow operating at 5-6 percentage points higher; i.e., the reactor can be adjusted to easily raise solids by 10 percent; and the more aggressive circulation can easily add another 7-9 percentage points which puts the reactor above 50 percent. But, because the continuous take off is positioned to take off slurry from a stratum in the stream which has a higher than average concentration of solids, the product actually recovered has about 3 percentage points(or greater) higher concentration than the reactor slurry average. Thus the operation can approach an effective slurry concentration of 55 weight percent or more, i.e. 52 percent average in the reactor and the removal of a component which is actually 55 percent (i.e. 3 percentage points) higher. In a commercial operation, as little as a one percentage point increase in solids concentration is generally of major significance.